

Response

Serial No.: 10/034,780

Confirmation No.: 1212

Filed: December 27, 2001

For: METHOD FOR MONITORING A MOVING OBJECT AND SYSTEM REGARDING SAME

Page 2 of 5

Remarks

The Office Action mailed 3 February 2005 has been received and reviewed. No claims have been amended or cancelled. Therefore, the pending claims are claims 1-26.

Reconsideration and withdrawal of the rejections are respectfully requested in view of the remarks provided herein.

The 35 U.S.C. §102 Rejection

The Examiner rejected claims 1-7 and 14-20 under 35 U.S.C. §102(b) as being anticipated by Stauffer et al. ("Adaptive background mixture models for real-time tracking", Proceedings 1999 IEEE Conference on Computer Vision and Pattern Recognition, Fort Collins, Col, 1999 June 23-25; 2:246-252). Applicants respectfully traverse the Examiner's rejection.

Claims 1 and 14

Claim 1 describes a method for use in monitoring a search area that includes providing frames of image data representative of a search area with the image data including pixel value data for a plurality of pixels, and providing a plurality of time varying distributions for each pixel based on the pixel value data. The method further includes providing at least one frame of update image data representative of the search area in an update cycle with the frame of image data comprising update pixel value data for each of the plurality of pixels. Yet further, the method includes attempting to match the update pixel value data for each pixel to each of all of the plurality of time varying distributions provided for the pixel. The plurality of time varying distributions for each pixel are updated based on whether the update pixel value data matches one of the plurality of time varying distributions provided for the pixel and the updated plurality of time varying distributions for each pixel are ordered based on a probability of the time varying distributions thereof being representative of background or foreground information in the search area for use in determining whether the pixel is to be considered background or foreground information. Claim 14 is a system claim that includes limitations similar to those of claim 1.

Page 3 of 5

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For a claim to be anticipated under 35 U.S.C. § 102(b), each and every element of the claim must be found in a single prior art reference. See M.P.E.P. § 2131.

The reference cited by the Examiner, Stauffer et al. does not describe each and every element of claim 1 or claim 14. In fact, the specification clearly points out the differences between the present invention and Stauffer et al. For a detail comparison please refer to the description at page 37, line 25 through page 39, line 16. As indicated therein, Stauffer et al., for example, does not attempt to match the update pixel value data for each pixel to each of all of the plurality of time varying distributions provided for the pixel and then update the plurality of time varying distributions for each pixel based on whether the update pixel value data matches one of the plurality of time varying distributions provided for the pixel. Rather, Stauffer et al. attempts to match the distributions one at a time and when a "supposed match" exists, then the matching process stops and an update is performed. As such, Stauffer et al. does not attempt to match update pixel value data for each pixel to each of all of the plurality of time varying distributions provided for the pixel and the update performed by Stauffer et al. may result in a model update that favors unjustly the wrong distribution.

For at least these reasons, claims 1 and 14 are not anticipated by Stauffer et al., and it is respectfully requested that the rejection of such claims be withdrawn.

Claims 2-7 and 15-20

The rejected claims respectively depend on one of the independent claims 1 or 14, either directly or indirectly. Therefore, they include the limitations of the respective independent claim upon which they depend. As such, and as described above, Stauffer et al. does not describe all the claim limitations of such rejected claims. Therefore, such claims are not anticipated by Stauffer et al. for at least the same reasons as described above with reference to claims 1 and 14, and it is respectfully requested that the rejection of such claims be withdrawn.

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Page 4 of 5

The 35 U.S.C. §103 Rejection

The Examiner rejected claims 8-10 and 21-23 under 35 U.S.C. §103(a) as being unpatentable over Stauffer in view of Sacks (U.S. Patent No. 4,739,401). The Examiner rejected claims 11-12 and 24-25 under 35 U.S.C. §103(a) as being unpatentable over Stauffer in view of Baxter (U.S. Patent No. 5,966,074). Further, the Examiner rejected claims 13 and 26 under 35 U.S.C. §103(a) as being unpatentable over Stauffer in view of Uyttendaele (U.S. Patent No. 6,701,030). Applicants respectfully traverse such rejections.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. *See M.P.E.P. § 2143.*

As discussed above with reference to the alleged anticipation of claims 1 and 14, Stauffer et al. does not teach or suggest all the claim limitations of claims 1 or 14. In fact, the specification clearly points out the differences between the present invention and Stauffer et al. (e.g., Stauffer et al. does not attempt to match the update pixel value data for each pixel to each of all of the plurality of time varying distributions provided for the pixel). Further, the other references cited by the Examiner, do not cure the deficiencies of Stauffer et al. Therefore, because all the limitations are not taught or suggested by the cited references, such claims are not obvious in view of the cited references for at least the same reasons as described above with reference to claims 1 and 17, and by reason of their own limitations. It is respectfully requested that the rejection of such claims be withdrawn.

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Page 5 of 5

Summary

It is respectfully submitted that the pending claims are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for
PAVLIDIS et al.

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3 June 2005**CERTIFICATE UNDER 37 CFR §1.8:**

The undersigned hereby certifies that the Transmittal Letter and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

on this 3 day of June, 2005, at _____ (Central Time).

By: Sandy Truchart
Name: Sandy Truchart
